

What Is Claimed Is:

1. An apparatus for applying a layer of fluid onto a workpiece moving relative to the apparatus, and used cooperatively with a fluid container, comprising:

a nozzle for dispensing the fluid, said nozzle having a cap having a inner wall and used to  
 5 mount the nozzle onto the container, said nozzle having a tip, wherein the nozzle tapers down towards the tip; and

a ring retaining a first end of bristles, an outer wall of said ring corresponding to the inner wall of said nozzle, said ring disposed onto said inner wall;

wherein said nozzle and said ring define at least one passage formed therein for  
 10 dispensing the fluid from said container to the second end of said bristles.

2. The apparatus as claimed in claim 1, wherein said ring is fixed by at least one of at least one inwardly extended flange formed on said inner wall and a tapered wall angle of 7 degrees or less.

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3. The apparatus as claimed in claim 1, wherein the shape of cross section of said nozzle tip is selected from a group consisting of a round, a rectangular, an oval, and a crescent.

4. The apparatus as claimed in claim 1, further comprising a check valve made of  
 20 elastomer, said check valve mounted at an exit hole of said container.

5. An apparatus for applying a layer of fluid onto a workpiece moving relative to the apparatus, and used cooperatively with a fluid container, comprising:

a first nozzle for dispensing the fluid, said first nozzle having a nozzle tip at a first end  
 25 and a cap at a second end to mount onto the container, said first nozzle tip having a substantially reduced through hole as compared with the diameter near the cap of the nozzle;

a check valve formed near said nozzle tip to prevent the fluid from free flowing and to allow the fluid flow when the container is being pressurized; and

a second nozzle having a second tip and detachably mounted on said first nozzle, wherein  
 30 the entrance of said second nozzle has a relationship with said first nozzle and is sized to fit onto

the circumference of said first tip, wherein there is at least one passage, said passage formed between said first nozzle and said second tip to dispense the fluid.

6. The apparatus as claimed in claim 5, wherein said second nozzle is mounted on said first nozzle by at least one selected from a group consisting of a circumferential tongue/groove, internal/external thread, and at least one of an outer circumference of said first nozzle and an inner circumference of second nozzle having a taper angle of approximately 7 degrees or less.

7. The apparatus as claimed in claim 5, wherein said check valve includes said through hole, a stem mounted axially at said through hole and a spring which holds said stem in-between.

8. The apparatus as claimed in claim 5, wherein said second nozzle has a ring for retaining bristles, wherein the outer wall of said ring is tapered corresponding to the inner wall of said second nozzle, said ring mountable onto said inner wall, wherein said second nozzle has at least one inwardly extending flange so as to secure said ring.

9. An apparatus for applying a layer of fluid onto a workpiece moving relative to the apparatus, and used cooperatively with a fluid container, comprising:

a nozzle for dispensing the fluid, said nozzle having a cap at a first end to mount onto the container; and

a tip formed at a second end of the nozzle, said tip having a U-shaped plane and an aft notch which dispenses a controlled layer of fluid onto a surface of the workpiece,

wherein the nozzle and the tip defines at least one passage to dispense the fluid; and

wherein the angle between axis of said nozzle and said U-shaped plane is between approximately 15° and approximately 75°.

10. The apparatus as claimed in claim 9, further comprising a guide assembly detachably mountable onto an exterior wall of said nozzle, wherein said guide assembly has a tubular nozzle adapter, wherein at least one guide extend longitudinally from said adapter to

beyond said U-shaped plane to guide said nozzle, wherein said guide has a relationship with at least one of said workpiece sidewalls, wherein said sidewalls are substantially normal to said surface.

5           11.     The apparatus as claimed in claim 10, wherein said exterior wall of the nozzle and corresponding inner wall of said tubular nozzle adapter are tapered at approximately 7 degrees or less.

10           12.     The apparatus as claimed in claim 10, further comprising a detent interengaging between said nozzle and said guide assembly so that said guide assembly can be secured on said nozzle.

15           13.     The apparatus as claimed in claim 9, said passage comprises a plurality of vanes, wherein the cross section of said nozzle is rectangular and said nozzle forms two major and two side walls, said vanes placed between two major walls of said nozzle to form a plurality of passages so as to diverge the fluid flow.

20           14.     The apparatus as claimed in claim 9, wherein the height of said notch is between approximately 0.025 cm and approximately 0.305 cm and the lateral width of said notch is between approximately 0.635 cm and approximately 6.35 cm.

            15.     An apparatus for applying a layer of fluid onto a workpiece moving relative to the apparatus, and used cooperatively with a fluid container, comprising:

25           a nozzle for dispensing the fluid, said nozzle having a cap at a first end to mount onto the fluid container;

            a tip formed at a second end, said tip having a U-shaped plane and an aft notch which dispense a controlled layer of fluid onto a surface of the workpiece, wherein said nozzle and said tip defining at least one passage formed therein;

30           at least one guide, which extends longitudinally from said nozzle to beyond said U-shaped plane to guide said nozzle laterally, wherein said guide has a relationship with at least

one of said workpiece sidewalls, wherein said sidewalls are substantially normal to said surface;  
and

wherein the angle between axis of said nozzle and said U-shaped plane is between approximately 15 degrees and approximately 75 degrees.

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16. An apparatus for applying a layer of fluid onto a workpiece moving relative to the apparatus, and used cooperatively with a fluid container, comprising:

a nozzle for dispensing the fluid, said nozzle having a cap at a first end to mount onto the fluid container;

10 a tip formed at a second end of said nozzle;

a roller coupled using two brackets to said cap, said roller having two opposing circumferential side flanges and a circumferential recess in-between, said tip to dispense the fluid onto said circumferential recess, wherein a controlled layer of fluid is dispensed onto workpiece surface; and

15 at least one detachably mounted guide, said guide mounted on said bracket, wherein said guide extends beyond the distance of said flange circumference so as to guide said roller laterally, wherein said guide has a relationship with at least one of said workpiece sidewalls, wherein said sidewalls are substantially normal to said surface.

20 17. The apparatus as claimed in claim 16, further comprising a post and a pouring spout, wherein said post is disposed in said cap, and wherein a pouring spout is mounted slidably on said nozzle so as to open and shut the fluid flow.

25 18. An apparatus for applying a layer of fluid onto a workpiece moving relative to the apparatus, and used cooperatively with a fluid container, comprising:

a nozzle for dispensing the fluid, said nozzle defining a fluid passage and having a cap at a first end to mount onto the fluid container and defining an axis;

at least two oppositely disposed orifices, said orifices are substantially normal to said axis, said orifices being located at two ends of the fluid passage; and

30 an outer wall comprised of plural projections and recesses disposed in-between, said projections being parallel to said axis, wherein said projections are configured corresponding to a

pocket formed in a workpiece so as to allow the fluid to flow in-between said recesses and said pocket wall of the workpiece, wherein the layer of fluid is defined by the distance between said pocket wall and said recess, wherein movement of said nozzle is in a vertical direction.

5           19.    The apparatus as claimed in claim 18, wherein said pocket is selected from a group consisting of a dowel receiving hole, a biscuit receiving elliptical slot, and a tenon receiving mortise.

10           20.    An apparatus for applying a layer of fluid onto a workpiece moving relative to the apparatus, and used cooperatively with a fluid container, comprising:

          a nozzle for dispensing the fluid, said nozzle having a cap at a first end to mount onto the container and defining an axis, said nozzle being rectangular in shape and having two side walls, two major walls, and an elliptical member which connects said two side walls;

          at least two orifices that are substantially normal to said axis;

15           at least two slots that extend from said orifices toward said side walls, said slots and said nozzle connected to define a fluid passage;

          at least two first projections which terminate above said slot disposed on each major wall;

          a second projection disposed substantially on each major wall at middle of said major wall, said second projection being extended toward end of ellipse; and

20           said first and second projections being parallel to said axis, wherein the fluid flows between said major walls and wall formed in the workpiece by a biscuit cutter.

          21.    An apparatus as claimed in claim 20, further comprising indicia disposed on major wall to indicate the distance from said ellipse.

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          22.    An apparatus for applying a layer of fluid onto a workpiece moving relative to the apparatus, and used cooperatively with a fluid container, comprising:

          a nozzle for dispensing the fluid, said nozzle having a cap to mount onto the container and defining an axis, said nozzle being rectangular in shape and having two side walls, two major walls, and an elliptical member which connect said two side walls;

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plural vanes placed angularly with said axis and in-between two major walls of said nozzle to form plural fluid passages among said vanes so as to diverge the fluid flow toward said side wall at near end of the elliptical member to form a wide exit;

at least two first projections disposed on each major wall;

5 a second projection disposed substantially on each major wall at middle of said major wall, said first and second projections being parallel to said axis, said first and second projections being extended toward end of the elliptical member; and

plural passes formed at end of said major wall so as to allow the fluid to reverse its flow, said pass formed in-between the direction of said vanes so that the fluid travels among said  
10 vanes, through said passes, spaces formed by said major walls and slot wall formed in the workpiece by a biscuit cutter.

23. An apparatus for the application of a layer of fluid onto a workpiece moving relative to the apparatus, and used cooperatively with a fluid container, comprising:

15 a nozzle for dispensing the fluid, said nozzle having a cap to mount onto the container and defining an axis, said nozzle being round in shape and having a first diameter which is sized corresponding to a drilled hole to move in vertical direction; and

a tip connected by two yokes which are extended from said nozzle end, said tip being a round disk in shape and form a second diameter,

20 wherein said yokes and a disk defining two oppositely disposed orifices that are substantially normal to said axis, wherein said orifices and said nozzle are connected to define a fluid passage, Do we need “and” here? it was used in line 16

wherein said second diameter is substantially smaller than that of said first diameter so as to allow the fluid to flow between said second diameter and the wall of said drilled hole.

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24. The apparatus as claimed in claim 23, further comprising plural projections radially disposed on said disk.

25. An apparatus as claimed in claim 23, further comprising indicia disposed on outer  
30 surface of said nozzle to indicate the distance from said tip.

26. An apparatus for applying a layer of fluid onto a workpiece moving relative to the apparatus, and used cooperatively with a fluid container, comprising:

a nozzle for dispensing the fluid, said nozzle having a cap to mount onto the fluid container and defining an axis;

5 a rim disposed on said cap and substantially parallel to said axis;

a cup having an opening having an interengage relationship with said rim, said cup having a plane opposite to said opening, said cup removably attached on said rim; and

a retainer attached onto said plane so as to provide the inner space of said cup saturated with fluid solvent or water moisture when said nozzle and said retainer are assembled.

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27. The apparatus as claimed in claim 26, wherein said interengage relationship uses a locking means, said means include external/internal threads or tongue/groove arrangement on peripheries of said rim and the inner circumference of said opening to attach said cup on said cap.

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28. The apparatus as claimed in claim 26, further comprising a downwardly extending circumferential flange formed on inner circumference in said cup, wherein said flange is located toward inner side from said opening as an airtight seal.

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29. The apparatus as claimed in claim 26, wherein the material of said retainer is selected from a group consisting of felt and sponge, and wherein said retainer is secured by an inwardly extending circumferential flange.